

This listing of claims replaces all prior versions of the claims in the Application.

Listing of Claims

Claim 1. (Currently Amended) A method for depositing a seed layer in the manufacture of integrated circuits comprising the step of disposing on a substrate having a non-conductive layer and apertures of $\leq 1 \mu\text{m}$ a layer comprising one or more conductive polymers to form the seed layer.

Claim 2. (Previously Presented) The method of claim 1 wherein the non-conductive layer is selected from a dielectric layer and a barrier layer.

Claim 3. (Currently Amended) The method of claim 2 wherein the dielectric layer comprises one or more of silicon dioxide, fluorinated silicon dioxide, organopolysilica materials, ~~or~~ and organic dielectric materials.

Claim 4. (Previously Presented) The method of claim 2 wherein the barrier layer comprises tantalum, tantalum nitride, titanium, titanium nitride, tungsten, tungsten nitride, molybdenum, molybdenum nitride, cobalt or cobalt nitride.

Claim 5. (Previously Presented) The method of claim 1 wherein the one or more conductive polymers comprise as polymerized units one or more monomers chosen from acetylene, aniline, pyrrole and thiophene.

Claim 6. (Previously Presented) The method of claim 1 wherein the one or more conductive polymers are substituted.

Claim 7. (Currently Amended) The method of claim 1 wherein the substrate has apertures are less than or equal to $0.5 \mu\text{m}$.

Claim 8. (Withdrawn) A method for depositing a metal layer on a substrate comprising the steps of: disposing on a substrate having a non-conductive layer and apertures of $\leq 1 \mu\text{m}$ a seed layer comprising one or more conductive polymers; contacting the substrate with a metal electroplating bath; and subjecting the substrate to a current density for a period of time sufficient to deposit a metal layer on the seed layer.

Claim 9. (Withdrawn) The method of claim 8 wherein the non-conductive layer is selected from a dielectric layer and a barrier layer.

Claim 10. (Withdrawn) The method of claim 9 wherein the dielectric layer comprises one or more of silicon dioxide, fluorinated silicon dioxide, organopolysilica materials, or organic dielectric materials.

Claim 11. (Withdrawn) The method of claim 9 wherein the barrier layer comprises tantalum, tantalum nitride, titanium, titanium nitride, tungsten, tungsten nitride, molybdenum, molybdenum nitride, cobalt or cobalt nitride.

Claim 12. (Withdrawn) The method of claim 8 wherein the one or more conductive polymers comprise as polymerized units one or more monomers chosen from acetylene, aniline, pyrrol and thiophene.

Claim 13. (Withdrawn) The method of claim 8 wherein the one or more conductive polymers are substituted.

Claim 14. (Withdrawn) The method of claim 8 wherein the apertures are less than or equal to 0.5 μm .

Claim 15. (Withdrawn) The method of claim 8 wherein the metal comprises one or more of copper, nickel, aluminum, tin, lead or tungsten.

Claim 16. (Withdrawn) The method of claim 8 wherein the metal electroplating bath comprises an acidic electrolyte.

Claim 17. (Withdrawn) A method for manufacturing an electronic device comprising the steps of: disposing on an electronic device substrate having a non-conductive seed layer and apertures of $\leq 1 \mu\text{m}$ a layer comprising one or more conductive polymers; contacting the substrate with a metal electroplating bath; and subjecting the substrate to a current density for a period of time sufficient to deposit a metal layer on the seed layer.

Claim 18. (Withdrawn) The method of claim 17 wherein the non-conductive layer is selected from a dielectric layer and a barrier layer.

Claim 19. (Withdrawn) The method of claim 18 wherein the dielectric layer comprises one or more of silicon dioxide, fluorinated silicon dioxide, organopolysilica materials, or organic dielectric materials.

- Claim 20. (Withdrawn) The method of claim 18 wherein the barrier layer comprises tantalum, tantalum nitride, titanium, titanium nitride, tungsten, tungsten nitride, molybdenum, molybdenum nitride, cobalt or cobalt nitride.
- Claim 21. (Withdrawn) The method of claim 17 wherein the one or more conductive polymers comprise as polymerized units one or more monomers chosen from acetylene, aniline, pyrrol and thiophene.
- Claim 22. (Withdrawn) The method of claim 17 wherein the one or more conductive polymers are substituted.
- Claim 23. (Withdrawn) The method of claim 17 wherein the apertures are less than or equal to 0.5 μm .
- Claim 24. (Withdrawn) The method of claim 17 wherein the metal comprises one or more of copper, nickel, aluminum, tin, lead or tungsten.
- Claim 25. (Withdrawn) The method of claim 17 wherein the metal electroplating bath comprises an acidic electrolyte.
- Claim 26. (Withdrawn) The method of claim 17 wherein the electronic device is an integrated circuit.
- Claim 27. (Currently Amended) A method of enhancing a seed layer used in the manufacture of integrated circuits comprising the step of: contacting a substrate having a discontinuous seed layer disposed on a non-conductive layer with one or more conductive polymers to provide a substantially continuous seed layer wherein the substrate comprises apertures of $\leq 1 \mu\text{m}$.
- Claim 28. (Previously Presented) The method of claim 27 wherein the non-conductive layer is selected from a dielectric layer and a barrier layer.
- Claim 29. (Currently Amended) The method of claim 28 wherein the dielectric layer comprises one or more of silicon dioxide, fluorinated silicon dioxide, organopolysilica materials, or and organic dielectric materials.

Claim 30. (Previously Presented) The method of claim 28 wherein the barrier layer comprises tantalum, tantalum nitride, titanium, titanium nitride, tungsten, tungsten nitride, molybdenum, molybdenum nitride, cobalt or cobalt nitride.

Claim 31. (Previously Presented) The method of claim 27 wherein the one or more conductive polymers comprise as polymerized units one or more monomers chosen from acetylene, aniline, pyrrol and thiophene.

Claim 32. (Previously Presented) The method of claim 31 wherein the one or more conductive polymers are substituted.

Claim 33. (Currently amended) The method of claim 27 wherein the substrate has apertures are less than or equal to 0.5 μm .

Claim 34. (Withdrawn) An electronic device substrate having apertures of $\leq 1 \mu\text{m}$ and having a substantially continuous seed layer comprising one or more conductive polymers.